

**5B8****MEDIUM-MU TRIODE—
SHARP-CUTOFF PENTODE**

9-PIN MINIATURE TYPE

*Intended for use in equipment having
series heater-string arrangement***5B8****GENERAL DATA****Electrical:**

Heater, for Unipotential Cathodes:

Voltage	4.7	ac or dc volts
Current	0.6	amp
Warm-up time (Average)	11	sec

*For definition of heater warm-up time and method of determining
it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of
this Section.*Direct Interelectrode Capacitances:⁰**Triode Unit:**

Grid to plate.	1.7	$\mu\mu\text{f}$
Grid to cathode & pentode grid No.3 & internal shield, and heater.	1.9	$\mu\mu\text{f}$
Plate to cathode & pentode grid No.3 & internal shield, and heater.	1.4	$\mu\mu\text{f}$

Pentode Unit:

Grid No.1 to plate	0.05 max.	$\mu\mu\text{f}$
Grid No.1 to cathode, grid No.2, and heater	6	$\mu\mu\text{f}$
Plate to cathode, grid No.3 & triode cathode & internal shield, grid No.2, and heater	2.6	$\mu\mu\text{f}$
Plate to cathode, grid No.2, and heater	0.15	$\mu\mu\text{f}$
Triode grid to pentode plate	0.0078	$\mu\mu\text{f}$
Pentode grid No.1 to triode plate.	0.0033	$\mu\mu\text{f}$
Pentode plate to triode plate.	0.06	$\mu\mu\text{f}$

Characteristics, Class A₁ Amplifier:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Plate-Supply Voltage	200	200	volts
Grid-No.2 Supply Voltage	—	150	volts
Grid Voltage	—6	—	volts
Cathode Resistor	—	180	ohms
Amplification Factor	19	—	
Plate Resistance (Approx.)	5750	300000	ohms
Transconductance	3300	6200	μmhos
Plate Current.	13	9.5	ma
Grid-No.2 Current.	—	2.8	ma
Grid-No.1 Voltage (Approx.) for plate $\mu\text{a} = 10$	—19	—8	volts

⁰: See next page.

9-58

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA 1

5B8



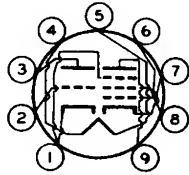
5B8

MEDIUM-MU TRIODE — SHARP-CUTOFF PENTODE

Mechanical:

Operating Position Any
 Maximum Overall Length 2-3/16"
 Maximum Seated Length 1-15/16"
 Length, Base Seat to Bulb Top (Excluding tip) .1-9/16" \pm 3/32"
 Diameter 0.750" to 0.875"
 Dimensional Outline See General Section
 Bulb T6-1/2
 Base Small-Button Noval 9-Pin (JETEC No.E9-1)
 Basing Designation for BOTTOM VIEW 9EC

Pin 1—Pentode
 Grid No.3,
 Triode
 Cathode,
 Internal
 Shield
 Pin 2—Triode Grid
 Pin 3—Triode Plate
 Pin 4—Heater



Pin 5—Heater
 Pin 6—Pentode
 Grid No.1
 Pin 7—Pentode
 Cathode
 Pin 8—Pentode
 Grid No.2
 Pin 9—Pentode
 Plate

AMPLIFIER — Class A₁

Maximum Ratings, Design-Center Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE	300 max.	300 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	—	300 max.	volts
GRID-No.2 VOLTAGE	—	See Grid-No.2 Input	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No.1 (CONTROL-GRID) VOLTAGE:			
Positive bias value	0 max.	0 max.	volts
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 150 volts	—	0.5 max.	watt
For grid-No.2 voltages between 150 and 300 volts	—	See Grid-No.2 Input	
<i>Rating Chart at front of Receiving Tube Section</i>			
PLATE DISSIPATION	2.5 max.	2 max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200 max.	200 max.	volts
Heater positive with respect to cathode	200 [▲] max.	200 [▲] max.	volts

[○], [▲]: See next page.



5B8

5B8

MEDIUM-MU TRIODE — SHARP-CUTOFF PENTODE

Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance:*			
For fixed-bias operation . . .	0.5 max.	0.25 max.	megohm
For cathode-bias operation . .	1 max.	1 max.	megohm

○ Without external shield.

▲ The dc component must not exceed 100 volts.

* If either unit is operated at maximum rated conditions, grid-No.1-circuit resistances for both units should not exceed the stated values.